

CLAIMS

1. A series of contact lenses provided as an assorted plurality of contact lenses, each being formed with an optical zone in a lens center area and a peripheral zone in a lens peripheral area, by forming a back surface optical zone in a center portion of a lens back surface as well as forming a back surface peripheral zone to an outer peripheral side of a back surface optical zone, while forming in a center portion of a lens front surface a front surface optical zone as well as forming a front surface peripheral zone to an outer peripheral side of the front surface optical zone, and having a given diameter dimension but mutually different optical characteristics in the optical zone, the series of contact lenses being characterized in that

in the assorted plurality of contact lenses, a shape of the lens back surface is identical for each lens, and a shape of an area extending a predetermined width in a diametrical direction of a peripheral portion in the front surface peripheral zone is identical for each lens, whereby while a shape of a portion extending a predetermined width in the diametrical direction of at least a peripheral portion in the peripheral zone is identical for each lens, a shape of the front surface optical zone differs among the lenses so that the optical characteristics of the optical zone differs among the lenses.

2. A series of contact lenses according to claim 1, wherein different degrees of refractive power of the optical zone are established in the assorted plurality of contact lenses so that optical characteristics of the optical zone differ, and a diameter of the front surface optical zone is varied depending on differences in refractive power of the optical zones.

3. A series of contact lenses according to claim 1 or 2, wherein the

diameter of the front surface optical zone is set to within a range $\phi 5$ mm - $\phi 12$ mm in each of the assorted plurality of contact lenses.

4. A series of contact lenses according to any one of claims 1-3,
5 wherein different degrees of refractive power of the optical zone are established in the assorted plurality of contact lenses so that optical characteristics of the optical zone differ, and a center portion thickness of the front surface optical zone is varied depending on differences in refractive power of the optical zones.

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5. A series of contact lenses according to claim 4, wherein the center portion thickness of the optical zone is set to within a range of 0.02 mm -0.70 mm in each of the assorted plurality of contact lenses.

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6. A series of contact lenses according to claim any one of claims 1-5, wherein different degrees of refractive power of the optical zone are established in the assorted plurality of contact lenses so that optical characteristics of the optical zone differ among these lenses, and the different degrees of refractive power of the optical zone are established
20 within a range of -25 diopters to +25 diopters, with a difference of at least 5 diopters.

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7. A series of contact lenses according to any one of claims 1-6, wherein in each of the assorted plurality of contact lenses, the front surface
25 peripheral zone is composed of a first front surface peripheral zone situated on an inner peripheral side and a second front surface peripheral zone situated on an outer peripheral side, with a first peripheral zone being formed between the first front surface peripheral zone and the lens back

surface, and with a second peripheral zone being formed between the second front surface peripheral zone and the lens back surface, the second peripheral zone having a shape that decreases in thickness gradually going towards the outer peripheral side, and wherein among the assorted plurality of contact lenses, each the second peripheral zone is of identical shape, and the first front surface peripheral zone forming the first peripheral zone has a smooth surface connecting to both the front surface optical zone and the second front surface peripheral zone in the diametrical direction at a continuous face having a common tangent.

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8. A series of contact lenses according to claim 7, wherein the first front surface peripheral zone is represented by a cubic curve in the diametrical direction.

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9. A series of contact lenses according to any one of claims 1-7, wherein in each of the assorted plurality of contact lenses, the diameter of the front surface optical zone is smaller than the diameter of the back surface optical zone, while the front surface peripheral zone is composed of a first front surface peripheral zone situated on an inner peripheral side and a second front surface peripheral zone situated on an outer peripheral side, and has a shape with the first front surface peripheral zone being in a location generally corresponding to the back surface optical zone, and with the back surface optical zone offset.

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10. A series of contact lenses according to claim 9, wherein in each of the assorted plurality of contact lenses, a first peripheral zone of generally constant thickness is formed by the first front surface peripheral zone and the back surface optical zone, and the second front surface peripheral zone is situated in a location generally corresponding to the back surface

peripheral zone, the second front surface peripheral zone and back surface peripheral zone forming a second peripheral zone that decreases in thickness going towards the outer peripheral side, the peripheral zone being composed of the first peripheral zone and the second peripheral zone, and wherein in among the assorted plurality of contact lenses, each the second peripheral zone has identical shape and each the first peripheral zone has identical thickness, while the diametrical width dimension of the first peripheral zones varies.

11. A series of contact lenses according to any one of claims 1-10, wherein a molding material for the assorted plurality of contact lenses is a soft material containing silicone.

12. A series of contact lenses according to any one of claims 1-11, wherein in the assorted plurality of contact lenses, the Young's modulus: y of the molding material is $0.2 \text{ MPa} \leq y \leq 2.0 \text{ MPa}$; and the value of average thickness: T_m of said peripheral zone is $0.05 \text{ mm} \leq T_m \leq 0.30 \text{ mm}$.

13. A series of contact lenses according to any one of claims 1-10, wherein in the assorted plurality of contact lenses, the Young's modulus: y of the molding material is $300 \text{ MPa} \leq y \leq 1500 \text{ MPa}$; and the value of average thickness: T_m of said peripheral zone is $0.08 \text{ mm} \leq T_m \leq 0.50 \text{ mm}$.

14. A series of contact lenses according to any one of claims 1-13, wherein the back surface peripheral zone has a curving surface with a radius of curvature greater than that of the back surface optical zone in the diametrical direction.

15. A contact lens being formed with an optical zone in a lens center

area and a peripheral zone in a lens peripheral area, by forming a back surface optical zone in a center portion of a lens back surface as well as forming a back surface peripheral zone to an outer peripheral side of a back surface optical zone, while forming in a center portion of a lens front surface a front surface optical zone as well as forming a front surface peripheral zone to an outer peripheral side of the front surface optical zone, the contact lens characterized in that the diameter of the front surface optical zone is smaller than the diameter of the back surface optical zone on the one hand, and the front surface peripheral zone is composed of a first front surface peripheral zone situated on an inner peripheral side and a second front surface peripheral zone situated on an outer peripheral side, while by having a shape wherein the first front surface peripheral zone is offset to the back surface optical zone, with a first peripheral zone of generally constant thickness being formed by the first front surface peripheral zone and back surface peripheral zone, and by situating the second front surface peripheral zone at a location generally corresponding to the back surface peripheral zone, the second front surface peripheral zone and back surface peripheral zone form a second peripheral zone that decreases in thickness going towards the outer peripheral side, the peripheral zone being composed of the first peripheral zone and the second peripheral zone.

16. A method of manufacturing a contact lens constituting a series of contact lens defined by any one of claims 1-13, wherein an entirety of the lens back surface including the back surface optical zone and the back surface peripheral zone, and an area of predetermined diametrical width of at least the outer peripheral portion of the front surface peripheral zone are shaped by molding.

17. A method of manufacturing a contact lens, wherein when manufacturing a contact lens being formed with an optical zone in a lens center area and a peripheral zone in a lens peripheral area, by forming a back surface optical zone in a center portion of a lens back surface as well as forming a back surface peripheral zone to an outer peripheral side of a back surface optical zone, while forming in a center portion of a lens front surface a front surface optical zone as well as forming a front surface peripheral zone to an outer peripheral side of the front surface optical zone, an entirety of the lens back surface including the back surface optical zone and the back surface peripheral zone, and an area extending over predetermined diametrical width of at least the outer peripheral portion of the front surface peripheral zone are shaped by molding, and the front surface optical zone of the lens front surface is then shaped by cutting.
18. A method of manufacturing a contact lens according to claim 17, wherein a minimum lens thickness in said optical zone of said lens front surface prior to shaping by cutting is set to within the range 0.05 mm -1.0 mm.